FirstNet in Rural America

Southeast Broadband Summit

13 Jan 2016

Red Grasso, Asst. Director FirstNetNC
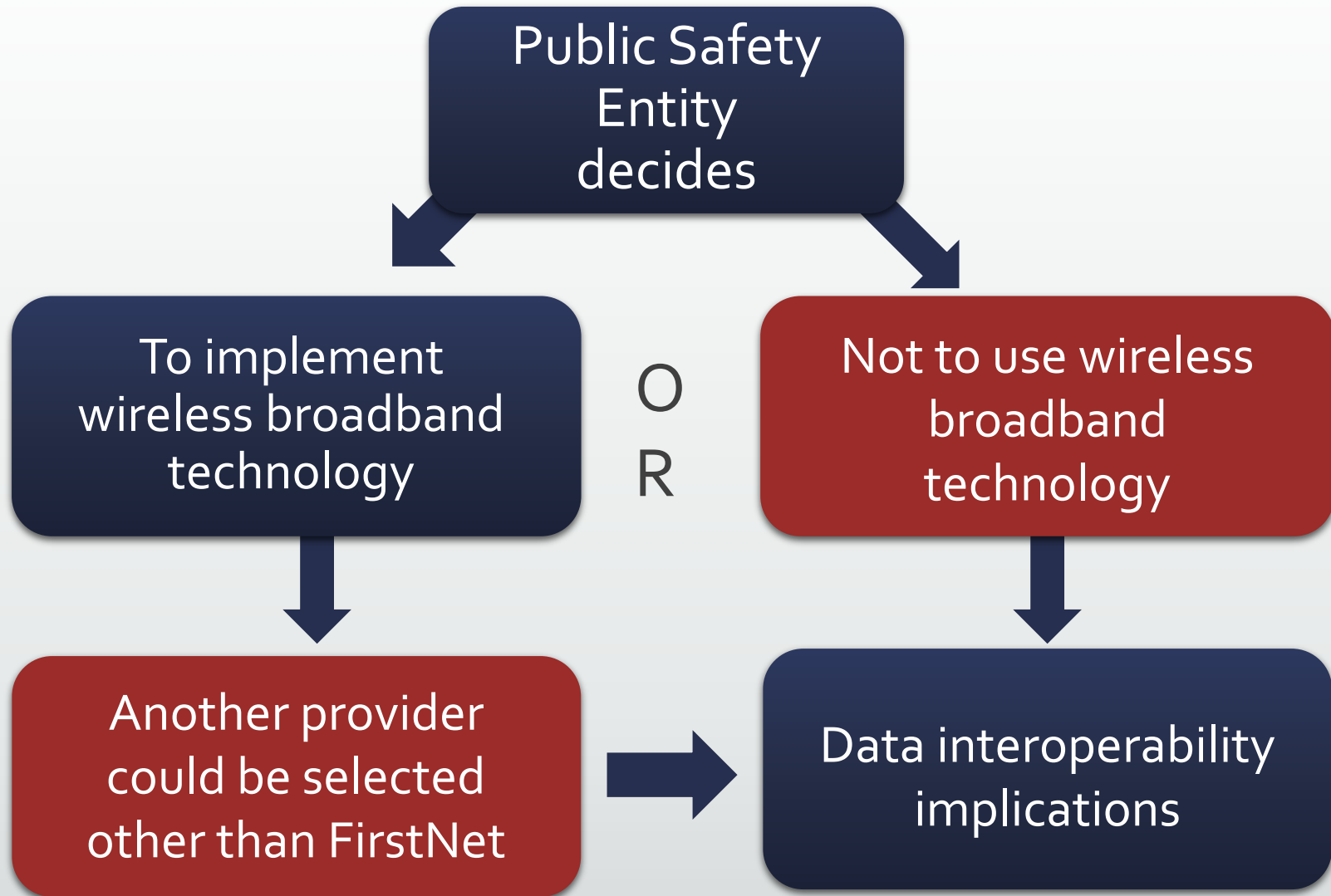
Urban and Rural questions

Questions about FirstNet from all stakeholders

- Is this mandated like the rebanding of UHF/VHF or rebanding of 800MHz

- Will this replace my LMR?

- How much will it cost?

- What will the coverage & capacity be?

- When will it be available?

Wireless Broadband is a choice

Public Safety Entity decides

To implement wireless broadband technology

OR

Not to use wireless broadband technology

Another provider could be selected other than FirstNet

Data interoperability implications

Rural Areas
Current Landscape

1

85 of 100 counties in NC are defined as rural by the US Census Bureau

Most volunteer firefighters (95%) were in departments that protected fewer than 25,000 people [3]

73% of State/Local Law Enforcement agencies have less than 25 sworn officers, with 49% being less than 10 sworn officers [2]

One-third of all motor vehicle accidents occur in rural areas but with two-thirds of the deaths attributed to these accidents [4]

Injury-related deaths are 40 percent higher in rural communities than in urban areas

1. Wikimedia public domain https://upload.wikimedia.org/wikipedia/commons/thumb/a/af/Andy_Griffith_Don_Knotts_Andy_Griffith_Show_1960.jpg/480px-Andy_Griffith_Don_Knotts_Andy_Griffith_Show_1960.jpg
2. US DOJ Bureau of Statistics - http://www.bjs.gov/content/pub/pdf/csllea08.pdf
3. NFPA U.S. Fire Department Profile http://www.nfpa.org/research/reports-and-statistics/the-fire-service/administration/us-fire-department-profile
4. Nation Rural Health Association http://www.ruralhealthweb.org/go/left/about-rural-health/what-s-different-about-rural-health-care
5. "Emergency Medical Services in Rural America" http://healthandwelfare.idaho.gov/Portals/0/Medical/EMS/NCSL%20EMS%20in%20rural%20america.pdf

Funding in Rural Areas

Can Public Safety Entities afford technologies?

- PSAPs may not have funding for advancements
  - Small centers with few people on duty
  - NG911 is simply an acronym that costs money

- Rural Fire Departments
  - Unmanned stations
  - Responders direct to the scene

- Law Enforcement
  - Large response areas
  - Small number of officers on duty

- EMS Agencies
  - Tiered responses based on incident
  - Extended transportation times

Concerns in Rural Areas

Will the network be available all the time or as needed?

- Fixed infrastructure – macro & boomer sites, etc.

- Mobile infrastructure – satellite, micro sites, vehicle modems, etc.

- Requested infrastructure (deployable) – provide network coverage as needed
  - Speed of deployment
  - Technical knowledge to deploy and utilize
  - Process for requesting such assets

Concerns in Rural Areas

New technology brings side effects - The $30,000 couch

New Technology added to daily missions:

- New SOG/SOPs to write

- New training objectives to meet – end user training, local control for incident commanders, IT staff, etc.

- Physical device security to consider

- Changes to services delivered

Concerns in Rural Areas

What will the business case look like in rural areas?

- Needed capacity - Sites have diminished capacity at distance

- Population density is lower in rural areas - secondary users could represent greater income

- QoS and capacity questions regarding emergency responders versus secondary users

- Volunteer or part time first responder members – primary or secondary users?

Concerns in Rural Areas

Is there a separate consideration for tribal entities?

- Some of the same issues as rural

- Separate politics and issues

- Sovereign nation coordinating with the State
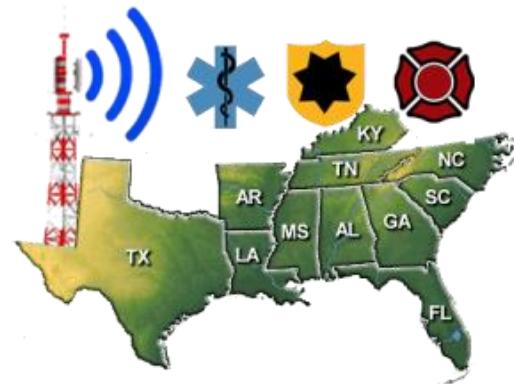
Other concerns?

FirstNet in Rural America
Southeast US Public Safety Broadband Summit

Kevin Green, FirstNet Legal Team
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What is FirstNet?

➤ Mission

- FirstNet will ensure the building, deployment, and operation of the nationwide public safety broadband network (NPSBN)
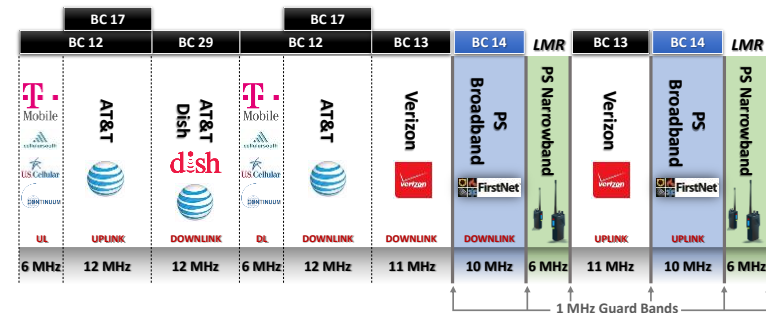
➤ Organization

- FirstNet is an independent authority established by Congress

➤ Funding and Assets

- $7B to deploy a nationwide network
- Authority to assess and collect certain fees
- Licensee of 20 MHz of Band 14 spectrum to enable a Public-Private Partnership
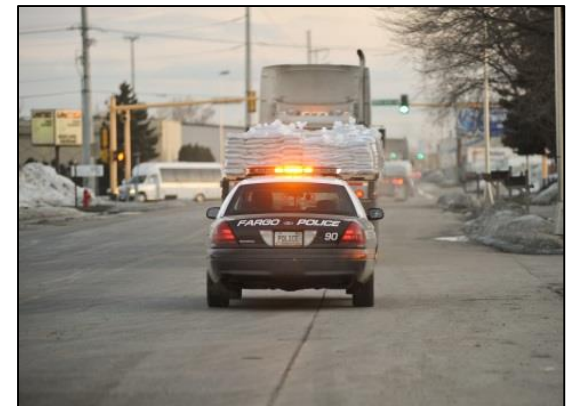
➤ Governance

- 15 member Board, CEO, President, and management team
- Mandate to consult with the 50 states, 5 territories, and Washington, D. C.
- Advised by Public Safety Advisory Committee (PSAC), representing public safety disciplines and state, territorial, tribal, and local governments

FirstNet's Enabling Legislation Requires Rural Coverage

- The Act requires "substantial rural coverage milestones as part of each phase of the construction and deployment of the network" and for FirstNet "to utilize cost-effective opportunities to speed deployment in rural areas"

- FirstNet must develop RFPs with "appropriate . . . coverage areas, including coverage in rural and nonurban areas"

- FirstNet must consult with regional, State, tribal, and local jurisdictions on, among other things, "coverage areas of the network, whether at the regional, State, tribal, or local level"
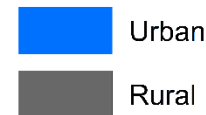
FirstNet's Definition of Rural

- FirstNet has adopted the meaning of "rural" contained in the Rural Electrification Act of 1936, as amended ("Rural Electrification Act").

- In summary, rural areas are *any area other than*:
  - A city, town or incorporated area that has a population of greater than 20,000
  - Any urbanized area contiguous and adjacent to a city or town with greater than 50,000 inhabitants
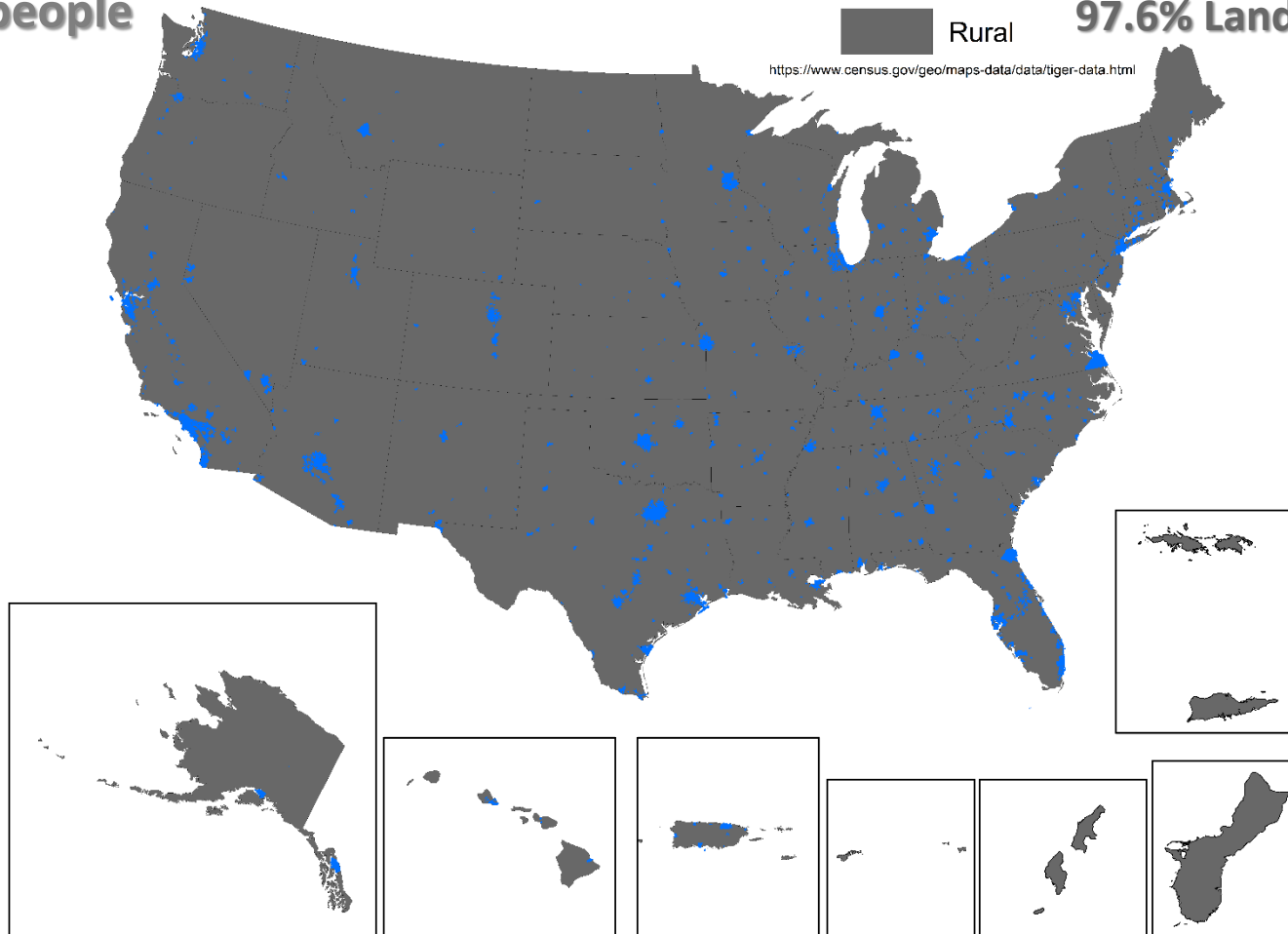
Mapping the Results

All US Census Places >20,000 & adjacent to >50,000 people

Urban   **2.4% Land | 55.8% Pops**
Rural   **97.6% Land | 44.2% Pops**

https://www.census.gov/geo/maps-data/data/tiger-data.html

RFP Statement of Objectives

Building, Deployment, Operation & Maintenance of the NPSBN

Financial Sustainability

First Responder User Adoption

Device Ecosystem

Applications Ecosystem

Accelerated Speed to Market

User Service Availability

Service Capacity

Cyber Security

Priority Services

Integration Of Opt-out State RANs

Integration of Existing Commercial/ Federal/ State/Tribal/Local Infrastructure To Support NPSBN Services

Life-cycle Innovation

Program and Business Management

Customer Care and Marketing

Facilitation of FirstNet's Compliance With The Act & Other Laws
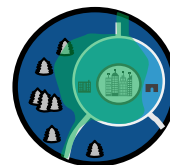
RFP Evaluation Criteria Address Rural Coverage

Coverage & Capacity Factor
- B14 & non-B14 coverage
- RAN solutions
- Coverage related IOC/FOC schedule
- Offerors will be evaluated on their partnerships with rural telecommunication providers as well as their plan to leverage existing infrastructure to the maximum extent economically desirable to speed deployment in rural America.

Products & Architecture Factor
- Service (public safety features)
- Applications & apps ecosystem
- Device ecosystem
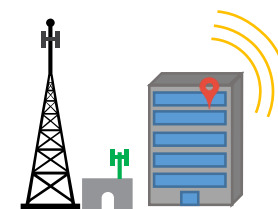- Architecture infrastructure, Core, and B/OSS & backhaul
- Network operations

Pricing Factor
- Meets FirstNet sustainability objective
- Use of FirstNet's $6.5B
- Demonstrated synergies & added value
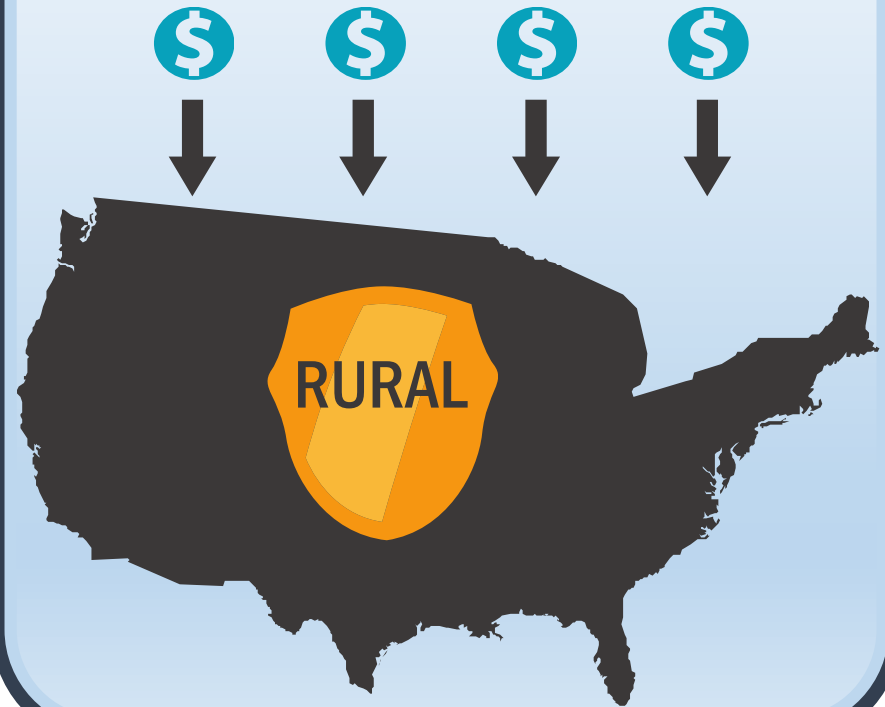- Unbalanced/unreasonable value determination

Business Management Factor
- Public Safety Adoption Program, Sales, and Marketing
- Teaming Arrangements, Leadership and Program Management, Small Business Plan
- Customer Care and Life-cycle Sustainment
- Program Sustainability
- Time-to-Market

Past Performance Factor:
- Successful project history - like scope
- Deliverable/report history
- Staying on schedule
- Staying within budget

Use of Existing Infrastructure

Protect Deployment in Rural States While Preserving the Right of All States to Assume Responsibility for the RAN

The Act **preserves** the **right of States** to construct and operate their own RAN, but **not** in a way that also allows them to **capture funding, beyond the reasonable costs** of such a RAN

RURAL

FirstNet Funding

- **FirstNet = Self Sustaining**
  - Fees = Costs
  - All FirstNet fees are reinvested to construct, maintain, operate, or improve the nationwide network

- **Three Primary Funding Sources**
  - $7 billion
  - Lease fees for excess spectrum capacity
  - Network user (subscriber) fees

QUESTIONS?